AN INSTRUMENT FOR MEASURING THE STRENGTH OF THE LIMBS — PEDO-DYNAMOMETER.[1]

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THE dynamometer of Mathieu has been of inestimable value in measuring accurately the strength of the flexors of hand and fingers, and its use has become well-nigh universal among neurologists. Of equal, if not more importance, is to ascertain the strength and power of the lower extremities, especially when they are implicated in disease, as in muscular atrophy, paralysis, etc. The usual method of estimating the strength of the leg-push is by offering resistance, and the examiner decides in an off-hand manner which is the stronger, but has no index or gauge to tell him how strong the stronger leg really is. Various instruments have been described, especially by Dana and Birdsall, in America, and Féré, d'Onimus, Pitres and Dignat, in France, but none of these seem to have won popular approval. All instruments of to-day must combine simplicity with cheapness and accuracy if they wish to court favor among professional men.

After much thought on this matter, I have devised an apparatus which seems to answer all the conditions. The harness consists of a wide, heavy belt (*a*), its inner surface padded so that its adjustment around the waist will not be uncomfortable. A heavy webbing (*b*) is looped through the belt, passing over the shoulders, and helps to retain the belt in proper position. A dynamometer (*c*) is connected with the belt by means of a strong, adjustable strap, permitting it to be lengthened or shortened according to the stature of the patient. Connected with the dynamometer is a stirrup (*d*), the base of which is also padded for receiving the foot. Pressure exerted upon the stirrup will be registered upon the dial of the dynamometer, and the exact strength of the extensors of the leg can be ascertained.

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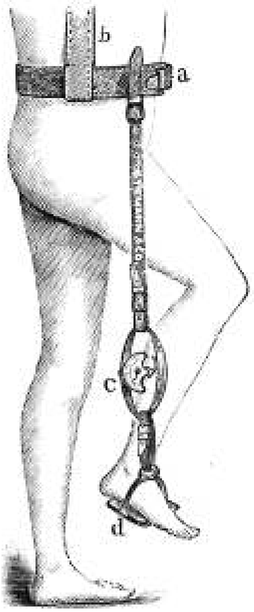
The apparatus can be applied as shown in the illustration; viz., the patient in a standing position, or he may take the recumbent position. The leg should be flexed, making an angle of 135° at the hip joint, and an angle of 90° at the knee joint. By lengthening the strap which connects the dynamometer (*c*) with the belt (*a*), and flexing the foot on the leg as much as possible, then directing the patient to extend the foot forcibly, the power of the calf muscles can then also be determined. By using snaps, the dynamometer can be quickly removed and used to measure the power of the hands.



As a result of many observations upon adults, I find the average power of the right leg-push (extension of the leg) to be 100 to 115 pounds; of the left, 110 to 125 pounds.

Messrs. Geo. Tiemann & Co., of New York, have made the apparatus in two sizes: one for adults and one for children, My experience with it has been very satisfactory.—*Neurologisches Centralblatt*, June 1, 1893.

Neurasthenia and Syphilis. — Kowalewsky (Centrb. f. Nervenhelk u. Psych., March, 1893).

This writer contends, in a long article filled with clinical details, that in syphilitic patients, we have neurasthenia arising under four different conditions. They are as follows: (1) Neurasthenia of hereditary syphilis; (2) neurasthenia of acquired syphilis; (3) the neurasthenia of inanition in syphilitics; this condition of neurasthenia being frequently brought about by too energetic administration of anti-syphilitics; (4) psychotraumatic neurasthenia of syphilitics, which develops from worrying about the contagion and transmisability of their disease, and from worrying about it from a moral standpoint. The writer remarks that it is very seldom that one sees neurasthenia limited solely in its causation to one of these etiological favors. Often two or more of them are at work to produce the neurasthenia; such, for instance, as where a patient suffers from syphilitic and pathologic heredity or syphilitic and moral shock or syphilis and psycho-pathologic heredity.

The author illustrates each of these types by reciting the histories of cases in detail, and points out the necessity for recognizing the particular form of neurasthenia syphilitica, as on this recognition depends the success of medication. For instance, the treatment that is curative in the second form is causative of the third.

It is very evident that the writer uses the term neurasthenia to embrace a far wider symptom complex than we are accustomed to. The symptoms in some of his cases would, to the minds of many writers, point unerringly to cerebral syphilis or to syphilitic insanity.

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